Target isotope: $^{36}_{18}$Ar $I^{\pi}_{\circ} = 0^+$ *Abundance:* 0.3365(30) % $S_{\rm p} = 1857.77(9)$ keV

$^{37}_{19}$K(p)

$E_\circ$ [keV]	$2J^\pi$	$2T$	Γ [keV]	$\omega\gamma$ [eV]	$S_{p\gamma}$ [meV]	S_{pp_1} [eV]	E_{cm} [keV]	E^* [keV]	Ref.		
321.3(2)	3^-			$7(1)\cdot10^{-4}$	1.2(3)		313	2170.3(2)	92Il03	99Mo07	67Go18
439.5(2)	$7^+\langle5^+\rangle$			$\leq24\cdot10^{-6}$			428	2285.3(2)	92Il03	98En04	
917.5(1)	5^+		$35(3)\cdot10^{-5}$	0.24(2)	415(60)	0.54(5)*	892	2750.3(1)	95Ma36	95Tr03	99Mo07
1258.7(2)	5^-		$21(4)\cdot10^{-6}$		26(4)	0.41(14)*	1224	3082.2(2)	98En04	67Go18	
1422(2)	5^+		$48(13)\cdot10^{-7}$	$7(1)\cdot10^{-4}$	1.2(3)	22(3)*	1383	3241(2)	98En04	99Mo07	93Il02
1497(2)	3^-		2.2(3)		62(8)		1456	3314(2)	88De03	67Go18	90En08
1815(15)	3^+				28(6)		1766	3623(15)	67Go18	90En08	
2042	$\langle1^+5\rangle^+$						1986	3844	67Go18		
2163(15)	1^-		<10		140(40)		2104	3962(15)	67Go18	90En08	
2184					incl.		2124	3982	67Go18		
2203(4)	1^-		35		incl.		2143	4001(4)	67Go18	90En08	70Th05
2491(20)					46(25)		2423	4281(20)	67Go18		
2627.3(4)	7^+				340(100)		2556	4413.5(4)	88De03	67Go18	90En08
2647.2(5)	3				225(70)	4.5(14)	2575	4432.8(5)	88De03	67Go18	
2726(5)	1^+		0.5(3)		58(45)		2652	4509(5)	90En08	67Go18	
2802(3)	1^-		83(11)		1400(400)	>2.8	2726	4583(3)	88De03	67Go18	90En08
2890.4(6)	$\langle3^-\text{–}11^-\rangle$				105(40)	3.8(14)	2812	4669.4(6)	88De03	67Go18	90En08
2955.3(4)	7^+				195(80)	0.8(3)	2875	4732.5(4)	88De03	67Go18	90En08
2960.9(5)	$\langle5^-\rangle$				<8	$\langle40\rangle$	2880	4738.0(5)	88De03	90En08	64Va15
3039.9(6)	5^+				105(40)	$\langle60\rangle$	2957	4814.8(6)	88De03	90En08	64Va15
3068.5(6)	5^+		0.20(8)		$\langle25\rangle$	$\langle4\rangle$	2985	4842.6(6)	88De03	67Go18	90En08
3249.6(6)	3^+		1.3(1)		65(35)	$\langle1.3\rangle$	3161	5018.8(6)	70Th05	97Ka10	88De03
3282.2(8)	3^+	3	0.038(6)		220(100)	$\langle0.3\rangle$	3193	5050.5(8)	70Th05	97Ka10	88De03
3355(7)	1^+		0.2(1)		100(60)		3264	5121(7)	70Th05	67Go18	64Ar17
3364(6)	5^-		0.5(2)		100(60)		3272	5130(6)	70Th05	67Go18	64Va15
3443(7)			0.04(2)		360(160)		3349	5207(7)	70Th05	67Go18	90En08
3503(5)	3^-		17		280(120)		3408	5265(5)	70Th05	67Go18	64Ar17
3558(5)	3^+		0.4		95(50)		3461	5319(5)	70Th05	67Go18	64Ar17
3582(7)	$\langle5,7\rangle^-$		0.12				3484	5342(7)	70Th05	67Go18	90En08
3660(7)	$\langle3,5\rangle^+$		5.0				3560	5418(7)	70Th05	67Go18	90En08
3694(5)			5.0				3593	5451(5)	70Th05	67Go18	90En08
3713(5)	$\langle3,5\rangle^+$		1.0				3612	5470(5)	70Th05	67Go18	90En08
3815(8)	5^-		0.12				3711	5569(8)	70Th05	67Go18	64Ar17
3873(15)	$\langle1\text{–}5\rangle^+$		<0.6				3767	5625(15)	70Th05	67Go18	90En08
3970(10)			<0.6				3862	5720(10)	67Go18	70Th05	90En08
3989(10)	$\langle5,7\rangle^-$		0.2				3880	5738(10)	67Go18	70Th05	90En08
4042(10)	3^+		2.7(5)				3932	5790(10)	97Ka10	70Th05	64Ar17
4192(10)	5^+		11(2)				4078	5936(10)	97Ka10	70Th05	90En08
4277(10)	5^+		6.7(13)				4160	6018(10)	97Ka10	70Th05	90En08
4306(7)	1^-		30				4189	6046(7)	70Th05	67Go18	
4314(7)	1^+		0.4				4196	6054(7)	70Th05		
4352(7)	1^+		1.0				4233	6091(7)	70Th05		
4373(7)			<0.6				4254	6112(7)	70Th05	67Go18	
4387(7)	5^+		12				4267	6125(7)	70Th05	67Go18	
4400(7)	$\langle5,7\rangle^-$		4.0				4280	6138(7)	70Th05		

(continued) $^{37}_{19}\mathbf{K}$(p)

$E_\circ$ [keV]	$2J^\pi$	$2T$	Γ [keV]	$\omega\gamma$ [eV]	$S_{p\gamma}$ [meV]	S_{pp_1} [eV]	E_{cm} [keV]	E^* [keV]	Ref.		
4416(7)			<0.6				4296	6153(7)	70Th05		
4489(7)	$\langle 3,5\rangle^+$		10				4367	6224(7)	70Th05	67Go18	
4502(7)	$\langle 5,7\rangle^-$		0.6				4379	6237(7)	70Th05		
4541(7)			<0.6				4417	6275(7)	70Th05	67Go18	
4593(8)	5^+		2.3(5)				4468	6326(8)	97Ka10	70Th05	
4614(8)			<0.6				4488	6346(8)	70Th05	67Go18	
4682(8)	1^+		2.0				4554	6412(8)	70Th05		
4701(8)	$\langle 1–5\rangle^+$		<0.6				4573	6431(8)	70Th05		
4724(8)	$\langle 5.7\rangle^-$		2.0				4595	6453(8)	70Th05		
4752(8)			<0.6				4622	6480(8)	70Th05		
4809(8)	3^-		30				4678	6536(8)	70Th05		
4882(8)**	3^+		4.9(10)				4749	6607(8)	97Ka10	70Th05	
4901(8)**	5^+		2.9(6)				4767	6625(8)	97Ka10	70Th05	
4907(8)**	5^-		5.9(12)				4773	6631(8)	97Ka10	70Th05	
4955(10)			<0.6				4820	6678(10)	70Th05		98En04
4967(10)	1^+	3	2.8(11)				4832	6689(10)	70Th05		98En04
4992(10)	3^-		60				4856	6714(10)	70Th05		98En04
5005(10)			<0.6				4869	6726(10)	70Th05		98En04
5027(10)	1^+		6.0				4890	6748(10)	70Th05		98En04
5083(10)	$\langle 5,7\rangle^-$		0.3				4944	6802(10)	70Th05		98En04
5103(10)	1^-		2.0				4964	6822(10)	70Th05	64Ar17	98En04
5150(10)			40				5010	6867(10)	70Th05		98En04
5196(10)	$\langle 5,7\rangle^-$		0.2				5054	6912(10)	70Th05		98En04
5262(10)	5^+		26				5119	6976(10)	70Th05	64Ar17	98En04
5293(10)			<0.6				5149	7007(10)	70Th05	64Ar17	98En04
5471(8)	5^+		2.5(5)				5322	7180(8)	97Ka10		98En04
5523(8)	3^+		6.1(12)				5372	7230(8)	97Ka10	64Ar17	98En04
5655(8)	5^+		19(4)				5501	7359(8)	97Ka10		98En04
5771(8)	5^+		$\langle 6.8\rangle$				5614	7471(8)	97Ka10		98En04
5795(8)	7^-		$\langle 0.1\rangle$				5637	7495(8)	97Ka10		98En04
5830(8)	3^+		$\langle 4.2\rangle$				5671	7529(8)	97Ka10		98En04
5942(8)	5^+		$\langle 15\rangle$				5780	7638(8)	97Ka10		98En04
5962(8)	3^+		$\langle 12\rangle$				5799	7657(8)	97Ka10		98En04

Additional data on this isotope can be found in [98Hi18, 98GyZZ, 93Il02, 66Sk02, 64Ka24, 64St18, 64Va15, 62Ar04, 61Ki04, 61Ki08].

* Γ_γ/Γ_p from [98En04] instead of S_{pp_1} in eV from [90En08].

** Shift of $E_\circ$ about 7 keV between the data in [70Th05] and [97Ka10] was marked; these $E_\circ$ are from [70Th05].

For the resonance at $E_\circ$=918 keV Γ is composed by Γ_p=225(20) meV and Γ_γ=123(10) meV; $\omega\gamma_{cm}$=238(19) meV for this resonance is recommended in [01Il02] as a standard.

Branching ratios of γ-transitions [88De03, 90En08]. $^{37}_{19}\mathrm{K}(\mathrm{p})$

E^*	$E_\circ$	$2J^\pi$	$2T$	Γ_{cm}	Branching ratios						E^*	Ref.	
[keV]	[keV]			[keV]	Percentage						[keV]		
E^*					0.0	1371	1380	2170	2285	2750	PRF		
$2J_{\mathrm{f}}^\pi$					3^+	1^+	7^-	3^-	7^+	5^+			
1370.85		1^+			100							90En08	98En04
1380.25		7^-			100	<4						90En08	98En04
2170.18	321.3	3^-			87(4)	13(4)					2170	90En08	98En04
2285.24	439.5	7^+			100	<4	<4				2285	90En08	98En04
2750.27	917.52	5^+			98.2(1)	<0.7	1.5(1)	0.3(1)	<0.07		2750	93Il02	98En04
2967(2)													
3081.99	1258.7	5^-			9.8(5)	<0.9	72.7(5)	17.5(5)	<0.4		3082	90En08	98En04
3239.3	1422	5^+			100	<9	<9	<10			3241	93Il02	98En04
3272(2)													
3314(2)	1497	3^-		2.2(3)	3.4(6)	88.0(7)	<0.6	8.6(5)	<0.9	<1	3314	90En08	98En04
3622	1815	3^+									3624		98En04
3840(3)	2042	X^+									3845		98En04
3962(15)	2163										3962		98En04
3983**	2184										3983		
4008(8)	2203	1^-		35							4001		98En04
4191(9)													
4278(5)	2491										4281		98En04
4413(13)	2627.3	7^+			8.5(4)	<0.8	91.7(4)	<0.8	<1.1	<1.5	4414	90En08	98En04
4413.2		7^+											
4432.4	2647.2	3		0.5(3)	68.7(12)	31.3(12)	<2	<2	<2	<3	4433	90En08	98En04
4500(6)	2726	1^+									4510		98En04
4584(3)	2804	1^-		83(11)							4586		98En04
4669.9	2890.4	X^-			<4	<3	100	<3	<2	<4	4670	90En08	98En04
4732.2	2955.3	7^+			26.2(12)	<2	19.4(12)	<2	54.4(10)	<2	4733	90En08	98En04
4737.7	2960.9										4738		98En04
4814.5	3039.9	5^+									4815		98En04
4842.4	3068.5	5^+		0.2(1)			100				4843	90En08	98En04
5018.5	3249.6	3^+		1.3(1)							5019		98En04
5049.7	3282.2	3^+	3	0.038			100				5051	90En08	98En04
5120.2	3355	1^+		0.2(1)							5122		98En04
5132(6)	3364	5^-		0.5(2)							5131		98En04
5208(7)	3443			0.040							5208		98En04
5266(5)	3503	3^-		17							5266		98En04
5323.0	3558	3^+		0.4							5320		98En04
5341(7)	3582	5^-,7^-		0.12							5343		98En04
5357		$\langle 1$–$5\rangle$											98En04
5424(3)	3665	3^+,5^+		5.0							5424		98En04
5448(4)	3694	1^+		5.0							5452		98En04
5467(4)	3713	3^+,5^+		1.0							5470		98En04
5569(4)	3815	5^-		0.12							5570		98En04
5623(2)	3873	X^+		<0.6							5626		98En04
5719(10)	3970			<0.6							5720		98En04

(continued) $^{37}_{19}\mathrm{K}(\mathrm{p})$

E^*	$E_\circ$	$2J^\pi$	$2T$	Γ_{cm}	Branching ratios						E^*	Ref.
[keV]	[keV]			[keV]	Percentage						[keV]	
E^*					0.0	1371	1380	2170	2285	2750	PRF	
$2J_{\mathrm{f}}^\pi$					3^+	1^+	7^-	3^-	7^+	5^+		
5737(10)	3989	$5^-,7^-$		0.2							5739	98En04
5787(4)	4042	3^+		2.7(5)							5791	98En04
5931(4)	4192	5^+		11(2)							5936	98En04
6015(3)	4277	5^+		6.7(13)							6019	98En04
6046(10)	4299*	1^-		30							6041	98En04
6053(10)	4307*	1^+		0.4							6048	98En04
6091(3)	4345*	1^+		1.0							6085	98En04
6111(10)	4366*			<0.6							6106	98En04
6124(10)	4380*	5^+		12							6119	98En04
6137(10)	4393*	$5^-,7^-$		<0.6							6132	98En04
6153(10)	4409*			<0.6							6148	98En04
6224(10)	4482*	$3^+,5^+$		10							6219	98En04
6236(10)	4495*	$5^-,7^-$		0.6							6231	98En04
6274(10)	4534*			<0.6							6269	98En04
6323(4)	4586	5^+									6320	98En04
6345(10)	4606*			<0.6							6339	98En04
6413(4)	4674*	1^+		2.0							6405	98En04
6431(3)	4693*	X^+		<0.6							6424	98En04
6452(10)	4716*	$5^-,7^-$		2.0							6446	98En04
6479(10)	4744*			<0.6							6474	98En04
6535(10)	4801*	3^-		30							6529	98En04
6603(4)	4873	3^+		4.9(10)							6599	98En04
6619(6)	4890	5^+		2.9(6)							6616	98En04
6626(6)	4898	5^-		5.9(12)							6623	98En04
6677	4945*			<0.6							6669	98En04
6686(2)	4957*	1^+	3	2.8(11)							6681	98En04
6713(10)	4982*	3^-		60							6705	98En04
6726(10)	4995*			<0.6							6718	98En04
6741(4)	5017*	1^+		6.0							6739	98En04
6801(10)	5073*	$5^-,7^-$		0.3							6794	98En04
6823(4)	5093*	1^-		2.0							6813	98En04
6867(10)	5140*			40							6859	98En04
6911(10)	5186*	$5^-,7^-$		0.2							6904	98En04
6974(4)	5252*	5^+		26							6968	98En04
7006(10)	5283*			<0.6							6998	98En04
7182(4)	5471	5^+		2.5(5)							7181	98En04
7235(4)	5523	3^+		6.1(12)							7231	98En04
7368(3)	5655	5^+		19(4)							7360	98En04
7473(3)	5771	5^+		⟨6.8⟩							7473	98En04
7496(8)	5795	7^-		⟨0.1⟩							7496	98En04
7539(5)	5830	3^+		⟨4.2⟩							7530	98En04

(continued) $^{37}_{19}\mathbf{K}(\mathrm{p})$

E^*	$E_\circ$	$2J^\pi$	$2T$	Γ_{cm}	Branching ratios						E^*	Ref.
[keV]	[keV]			[keV]	Percentage						[keV]	
E^*					0.0	1371	1380	2170	2285	2750	PRF	
$2J^\pi_{\mathrm{f}}$					3^+	1^+	7^-	3^-	7^+	5^+		
7634(4)	5942	5^+		$\langle 15\rangle$							7639	98En04
7660(4)	5962	3^+		$\langle 12\rangle$							7659	98En04

Additional data on this isotope can be found in [98En04, 97Ka10, 93Il02, 88De03].
* the shifted values from the main table
** not included in [98En04]

Target isotope: $^{38}_{18}$Ar $I^\pi_\circ = 0^+$ *Abundance:* 0.0632(5) % $S_{\mathrm{p}} = 6381.04(45)$ keV $^{39}_{19}\mathbf{K}(\mathrm{p})$

$E_\circ$	$2J^\pi$	$2T$	Γ_{p}	$S_{\mathrm{p}\gamma}$	E_{cm}	E^*	Ref.			
[keV]			[keV]	[eV]	[keV]	[keV]				
896.5(8)				0.17(5)	873.5	7254.6(9)	84Ha27			
921.3(6)				0.33(10)	897.7	7278.7(7)	84Ha27	64Ar12		
929.4(8)				0.04(2)	905.6	7286.6(9)	84Ha27			
980.5(8)				0.06(2)	955.4	7336.4(9)	84Ha27			
1026.7(6)				0.10(4)	1000.4	7381.4(7)	84Ha27			
1085.8(7)				0.35(10)	1058.0	7439.0(8)	84Ha27	64Ar12		
1095.5(8)				0.06(2)	1067.4	7448.5(9)	84Ha27			
1108.8(7)	3^-,5			0.74(19)	1080.4	7461.4(8)	84Ha27	64Ar12		
1129.8(7)				0.23(6)	1100.8	7481.9(8)	84Ha27			
1185.1(8)	1–5^+			1.0(4)	1154.7	7535.8(9)	84Ha27	64Ar12		
1190.0(8)				0.12(4)	1159.0	7540.5(9)	84Ha27			
1201.6(8)				0.08(4)	1170.8	7551.8(9)	84Ha27			
1210.4(8)				0.04(2)	1179.4	7560.4(9)	84Ha27			
1253.5(8)	3^-–7			0.12(4)	1221.4	7602.4(9)	84Ha27			
1256.2(8)				0.14(5)	1224.0	7605.0(9)	84Ha27			
1285.2(6)	3^-,5			0.54(17)	1252.2	7633.3(7)	70Ma31	84Ha27	64Ar12	
1353.4(8)	3^-–7			0.12(4)	1318.7	7699.7(9)	84Ha27			
1368.5(8)				0.29(10)	1333.4	7714.5(9)	70Ma31	64Ar12		
1394.3(6)	3^-	3	1.1(2)	2.6(5)	1358.5	7739.6(7)	74Ke10	84Ha27	90En08	64Ar12
1411.0(8)	3,5^+			0.27(6)	1375.0	7755.9(9)	70Ma31	84Ha27	64Ar12	
1421.6(8)				0.10(4)	1385.1	7766.2(9)	84Ha27			
1428.6(8)	3^-,5^+			0.29(8)	1392.0	7773.0(9)	70Ma31	84Ha27		
1440.7(8)	1–5^+			0.16(6)	1403.8	7784.8(9)	84Ha27			
1453.7(8)	5^-			0.87(23)	1416.4	7797.5(9)	70Ma31	84Ha27		
1458.4(8)	$\langle 5^-,7^+\rangle$			0.43(10)	1421.0	7802.0(9)	84Ha27			
1461.3(8)	$\langle 5^-,7^+\rangle$			0.20(6)	1423.8	7804.9(9)	84Ha27			
1477.6(8)	1–5^+			0.41(10)	1439.7	7820.8(9)	70Ma31	84Ha27		
1504.4(12)	1^-,5^+			0.60(19)	1465.8	7846.9(13)	70Ma31	84Ha27		

(continued) $^{39}_{19}\mathbf{K}(\mathrm{p})$

$E_\circ$ [keV]	$2J^\pi$	$2T$	Γ_p [keV]	$S_{\mathrm{p}\gamma}$ [eV]	E_cm [keV]	E^* [keV]	Ref.		
1526.3(10)	3^-,5			0.76(20)	1487.2	7868.2(11)	86Zi02	70Ma31	84Ha27
1618.4(8)	1–5^+			0.78(20)	1576.9	7957.9(9)	70Ma31	84Ha27	
1639.7(8)	3^-,5			0.50(12)	1597.7	7978.7(9)	70Ma31	84Ha27	
1642.8(10)				0.14(6)	1600.7	7981.7(11)	84Ha27		
1644.6(8)	3,5			1.0(4)	1602.4	7983.5(9)	70Ma31	84Ha27	
1647.6(8)				0.12(4)	1605.4	7986.4(9)	84Ha27		
1653.8(8)	3^-,5^+			0.93(21)	1611.4	7992.4(9)	86Zi02	70Ma31	84Ha27
1657.0(8)				0.14(4)	1615.0	7995.6(9)	84Ha27		
1660.1(8)				0.12(4)	1617.5	7998.6(9)	84Ha27		
1693.5(8)	1–5			0.50(12)	1650.1	8031.1(9)	70Ma31	84Ha27	
1696.5(10)	$\langle 1$–$7^+\rangle$			0.21(6)	1653.0	8034.0(11)	84Ha27		
1701.2(8)	3^-,5			1.3(4)	1657.6	8038.6(9)	70Ma31	84Ha27	
1743.4(12)	$\langle 1^-$–$5^+\rangle$			0.35(14)	1698.7	8079.7(13)	84Ha27		
1745.3(12)	$\langle 3^-$,5$\rangle$			0.52(25)	1700.5	8081.6(13)	70Ma31	84Ha27	
1751.0(10)				0.06(2)	1706.0	8087.1(11)	84Ha27		
1757.4(10)	3^-,5^+			0.54(14)	1712.3	8093.4(11)	86Zi02	70Ma31	84Ha27
1763.5(10)	$7^-\langle 9^+\rangle$			0.35(12)	1718.3	8099.3(11)	86Zi02	70Ma31	84Ha27
1772.3(10)	1^-–5^+			0.27(14)	1726.9	8107.9(11)	70Ma31	84Ha27	
1782.8(8)	3^-,5^+			0.87(21)	1737.1	8118.1(9)	70Ma31	84Ha27	
1793.7(10)				0.18(6)	1747.7	8128.7(11)	84Ha27		
1803.7(10)	1^-,5			0.19(6)	1757.5	8138.5(11)	70Ma31	84Ha27	
1836.4(10)				0.31(12)	1789.3	8170.4(11)	84Ha27		
1851.5(10)				0.56(19)	1804.0	8185.1(11)	84Ha27		
1855.9(10)				0.52(17)	1808.3	8189.4(11)	84Ha27		
1858.0(10)				0.56(19)	1810.0	8191.4(11)	70Ma31	84Ha27	
1865.2(10)				1.2(4)	1817.4	8198.4(11)	70Ma31	84Ha27	
1870.2(12)				0.20(6)	1822.2	8203.3(13)	84Ha27		
1921.2(8)				2.7(9)	1871.9	8253.0(9)	70Ma31	84Ha27	
1931.0(10)				1.4(5)	1881.0	8262.5(11)	70Ma31	84Ha27	
1939.8(10)				0.25(8)	1890.1	8271.1(11)	84Ha27		
1948.8(10)				0.37(12)	1898.8	8279.9(11)	70Ma31	84Ha27	
1954.4(10)				0.19(8)	1904.3	8285.3(11)	84Ha27		
1963.7(10)				0.47(16)	1913.3	8294.4(11)	70Ma31	84Ha27	
1974.7(10)				0.93(31)	1924.1	8305.1(11)	70Ma31	84Ha27	
1984.7(15)				0.29(10)	1933.8	8314.9(15)	84Ha27		
1996.3(10)				0.14(6)	1945.1	8326.2(11)	84Ha27		
2011.6(10)				0.62(21)	1960.0	8341.1(11)	70Ma31	84Ha27	
2017.9(10)				0.37(12)	1966.2	8347.2(11)	70Ma31	84Ha27	
2051.5(10)				0.39(12)	1998.9	8379.9(11)	70Ma31	84Ha27	
2058.3(10)				1.1(4)	2005.5	8386.6(11)	70Ma31	84Ha27	
2067.5(15)				0.52(17)	2014.5	8395.5(15)	70Ma31	84Ha27	
2086.7(12)				1.2(4)	2033.2	8414.2(13)	70Ma31	84Ha27	
2100.0(12)				0.37(12)	2046.0	8427.2(13)	70Ma31	84Ha27	
2102.8(12)				0.95(31)	2048.9	8429.9(13)	84Ha27		
2139.6(12)				0.47(17)	2084.7	8465.8(13)	70Ma31	84Ha27	

(continued) $^{39}_{19}\mathbf{K}(\mathrm{p})$

$E_\circ$ [keV]	$2J^\pi$	$2T$	Γ_p [keV]	$S_{\mathrm{p}\gamma}$ [eV]	E_cm [keV]	E^* [keV]	Ref.	
2150.5(15)				0.54(19)	2095.4	8476.4(15)	84Ha27	
2158.8(12)				1.0(4)	2103.4	8484.5(13)	84Ha27	
2184.6(12)				0.27(8)	2128.6	8509.6(13)	84Ha27	
2189.1(12)				0.37(12)	2133.0	8514.0(13)	84Ha27	
2200.0(12)				0.39(12)	2144.0	8524.6(13)	84Ha27	
2206.4(12)	3^-,5			1.1(4)	2149.8	8530.9(13)	70Ma31	84Ha27
2223.9(13)				0.66(23)	2166.9	8547.9(13)	84Ha27	
2236.0(15)				0.21(6)	2179.0	8559.7(15)	84Ha27	
2244.0(13)				0.27(8)	2186.0	8567.5(13)	84Ha27	
2261.0(13)	3^-,5			1.6(5)	2203.0	8584.1(13)	70Ma31	84Ha27
2269.8(15)				0.41(14)	2211.6	8592.6(15)	84Ha27	
2275.8(15)				0.21(10)	2217.4	8598.5(15)	84Ha27	
2303.3(15)	$\langle 1\text{–}7^+ \rangle$			0.62(21)	2244.2	8625.3(15)	70Ma31	84Ha27
2305.4(15)	3^-,5			1.7(6)	2246.3	8627.3(15)	84Ha27	
2317.1(15)				0.58(20)	2257.7	8638.7(15)	70Ma31	84Ha27
2334.2(15)				0.41(15)	2274.3	8655.4(15)	84Ha27	
2346.3(15)				0.25(8)	2286.1	8667.2(15)	84Ha27	
2351.9(15)				0.37(12)	2291.6	8672.6(15)	84Ha27	
2354.0(15)				0.31(10)	2294.0	8674.7(15)	84Ha27	
2363.3(15)				0.83(27)	2302.7	8683.7(15)	84Ha27	
2368.0(15)				0.83(27)	2307.0	8688.3(15)	84Ha27	
2373.4(15)				0.52(17)	2312.5	8693.6(15)	84Ha27	
2384.4(15)				0.62(21)	2323.3	8704.3(15)	84Ha27	
2389.7(15)				1.2(4)	2328.4	8709.5(15)	84Ha27	
2395.0(15)				0.62(21)	2334.0	8714.6(15)	84Ha27	
2400.6(15)				0.58(21)	2339.0	8720.1(15)	84Ha27	

Additional data on this isotope can be found in [98Vo13, 94Ch36, 86Zi02, 70Ko28, 66Sk02, 64Ar12].

Application of (p,γ) data in the estimations of thermonuclear explosive oxygen burning was discussed in [84Ha27].

Resonances in α-scattering on natural chlorine at E_α=6000–8500 keV were observed in [94Ch36].

Reduced E1 radiative widths of Isobaric Analogue Resonances in A-odd nuclei ^{23}Na, ^{27}Al, ^{31}P, ^{35}Cl, ^{37}Cl, ^{39}K were analyzed in [98Vo13].

Branching ratios of γ-transitions. Part 1. $^{39}_{19}\mathrm{K}(\mathrm{p})$

E^*	$2J^\pi$	$2T$	Branching ratios											Ref.
[keV]			Percentage											
E^*			0	2523	2814	3019	3598	3883	3939	3944	4082	4095	4126	4480	
$2J_f^\pi$			3^+	1^+	7^-	3^-	9^-	5^-	3^+	11^-	3^-	1^+	7^-		
2522.5	1^+		100												90En08
2814.3	7^-		100	<6											90En08
3019.2	3^-		100	<6											90En08
3597.5	9^-		54(2)	<4	46(2)										90En08
3883.1	5^-		100	<2	<2	<2	<2								90En08
3938.9	3^+		91.8(12)	8.2(12)											90En08
3944.3	11^-				63(1)		37(1)								90En08
4082.3	3^-		67(3)	21(3)		12(2)									90En08
4095.3	1^+			84.6(11)		15.4(11)									90En08
4126.0	7^-				100										90En08
4475.1	1^-,3^-		37(5)	47(5)		16(5)									90En08
4514.3	5^+		100												90En08
4520.2	9^-						88.8(9)			9.2(7)			2.0(5)		90En08
4678.6	7^-				92.5(9)								7.5(9)		90En08
4737.5	X^-				100										90En08
4737.9	5^+		100												90En08
4930.1	3^+		76(2)	24(2)											90En08
5009.1	7^-						23(5)						77(5)		90En08
5010.6	X^-					36(5)		64(5)							90En08
5163.9	9^-									55.3(15)			23.3(12)		90En08
5165.5	X^-				100										90En08
5173.4			100												90En08
5262.7	5^+		100												90En08
5318.2	3^+		100												90En08
5354.0	11^-									100					90En08
5501.9	7^-				12(3)		32(2)								90En08
5597.9	5^+		100		<5								<3		90En08
5643.4	7^-														90En08
5711.5	3^+		100												90En08
5718.3	13^-									98.4(2)					90En08
5788.3	5^+,7^+		100												90En08
5801.6	7^-				30(2)								18(4)		90En08
5826.3	1^-,3^-		100												90En08
5891(2)	7^-				71(2)								12(5)		90En08
5937.9	5^+		100												90En08
6005.6	11^-									100					90En08
6042(3)			100												90En08
6093.0	5^-,7^-				100										90En08
6110.5	1^-,3^-		22(5)	78(5)											90En08
6186(2)	X^+		39(5)												90En08
6192(2)	X^-									21(5)					90En08
6246(2)	1^+		100												90En08

(continued) $^{39}_{19}\mathbf{K}(\mathrm{p})$

E^*	$E_\circ$	$2J^\pi$	$2T$	Branching ratios											Ref.
[keV]	[keV]			Percentage											
E^*				0	2523	2814	3019	3598	3883	3939	3944	4082	4095	4126	4480	
$2J_f^\pi$				3^+	1^+	7^-	3^-	9^-	5^-	3^+	11^-	3^-	1^+	7^-		
6246.8						65(5)										90En08
6331.0		3^+		100												90En08
6356(2)		5^+		x					x							90En08
6396(2)						x								x		90En08
6410(2)				93(4)												90En08
6434.2		13^+									100					90En08
6460(3)		X^+		x												90En08
6475.1		15^+														90En08
6501(2)		X^+		x					x							90En08
6528(2)				100												90En08
6546(2)		7^-	3			100										90En08
6653(2)		X^+		x											x	90En08
6686(2)				x												90En08
6749(2)		X^+		x					x							90En08
6818(3)		X^+		x												90En08
6828(2)				x												90En08
6916(2)				100												90En08
6943(2)		X^+		100												90En08
7021(2)		X^+		100												90En08
7051(2)		X^-		x		x										90En08
7092.1											100					90En08
7141.7		15^-									60(2)					90En08
7170(2)				100												90En08
7200(2)				x		x										90En08
7260(2)				x		x										90En08
7461.4	1108.8	3^-,5		93					1.5	1.7						84Ha27
7535.8	1185.1	$1,5^+$		75	4.1		2.4			2.8		4.8	4.0			84Ha27
7602.4	1253.5	3^-–7		44		6				5				5		84Ha27
7633.3	1285.2	3^-,5		52	3.1	3.5	12		2.0			11			3.1	84Ha27
7699.7	1353.4	3^-–7				44	8		9					26		84Ha27
7714.5	1368.5			29			4.2	2.6	2.5	2.7			8.5			84Ha27
7739.6	1394.3	3^-	3	16(2)	17(2)		51(4)		1.0			13(2)			0.6	86Zi02
7755.9	1411.0	$3,5^+$			60	3.1	20					6.0			1.4	84Ha27
7773.0	1428.6	$3^-,5^+$		44	19				9.2				2.6	3.8		84Ha27
7784.8	1440.7	$1–5^+$		23			16			11			46			84Ha27
7797.5	1453.7	5^-		55	2.1	19				1.2		1.7		6.8		84Ha27
7802.0	1458.4	$5^-,7^+$		31		18	2.7	7.6	5.2					13.8		84Ha27
7804.9	1461.3	$5^-,7^+$		11	2.8	9.9	29	8.4	3.1					9.7		84Ha27
7820.8	1477.6	$1–5^+$		67						5.2		8.9	5.6		11	84Ha27
7846.9	1504.4	$1^-,5^+$					34(6)		29(6)						37(5)	86Zi02
7868.2	1526.3	5^+		50(4)		6(1)			16(2)	4(1)	8*					86Zi02
7957.9	1618.4	$1–5^+$		19(4)	56(5)						25*					86Zi02

(continued) $^{39}_{19}\mathbf{K}$(p)

E^*	$E_\circ$	$2J^\pi$	$2T$	Branching ratios											Ref.
[keV]	[keV]			Percentage											
E^*				0	2523	2814	3019	3598	3883	3939	3944	4082	4095	4126	4480	
$2J^\pi_f$				3^+	1^+	7^-	3^-	9^-	5^-	3^+	11^-	3^-	1^+	7^-		
7978.7	1639.7	3^-,5		52(12)		29(8)			1.9					1.6		86Zi02
7983.5	1644.6	3,5		7.5			2.9		5.1							84Ha27
7992.4	1653.8	3^-		5(1)	13(1)		52(3)		23(2)		7*					86Zi02
8031.1	1693.5	1–5		75(6)			25(6)									86Zi02
8034.0	1696.5	1–7^+		95			3									84Ha27
8038.6	1701.2	3^-,5		54(6)		16(4)	30(4)		3.4			7.7				86Zi02
8079.7	1743.4	1^-–5^+		15	6		44		25							84Ha27
8081.6	1745.3	3^-,5		25	40		25		10							86Zi02
8093.4	1757.4	3^-		22(2)	6(1)	3.7(8)	2.7(7)		6(1)	12(1)		2.1(3)	2.2(5)	1.5(5)	1.3(5)	86Zi02
8099.3	1763.5	9^+				14(1)		6(1)			4(1)			28(2)		86Zi02
8107.9	1772.3	1^-–5^+		6	17		27		14	11		4				84Ha27
8118.1	1782.8	3^-,5^+		42	4.2	32	8.1		6.3							84Ha27
8138.5	1803.7	3^-,5		6			22			19		6				84Ha27
8198.4	1865.2			79(3)		9(2)				12(2)						86Zi02
8253.0	1921.2			100												86Zi02
8262.5	1931.0			100												86Zi02
8279.9	1948.8			100												86Zi02
8305.1	1974.7			33(3)		20(3)	21(3)		7(2)	16(2)		3*				86Zi02
8530.9	2206.4	3^-,5		33		17	11		19			5				84Ha27
8584.1	2261.0	3^-,5		70		14			3.4					2.9		84Ha27
8625.3	2303.3	1–7^+		21					11	51						84Ha27
8627.3	2305.4	3^-,5		6.7		8.1	30		31	4.0		1.5				84Ha27

Additional data on this isotope can be found in [74Ke10, 70Ma31].
* Transition to the unknown states.
Data in [84Ha27] contains many weak transitions and hence percentage of the same branchings is lower than in [86Zi02].
Values without errors are from [84Ha27], for some of resonances combined data are given.

Branching ratios of γ-transitions. Part 2. $^{39}_{19}\mathbf{K}$(p)

E^*	$E_\circ$	Branching ratios														
[keV]	[keV]	Percentage														
E^*		4510	4520	4680	4737	4738	4930	5009	5011	5163	5170	5260	5320	5350	5500	5600
$2J^\pi_f$		5^+				5^+		7^-		X$^-$		5^+	3^+		7^-	5^+
5163.9			21.4(10)													
5501.9			7(2)	49(2)												
5643.4				75(10)	25(10)											

(continued) $^{39}_{19}\mathrm{K}(\mathrm{p})$

E^*	$E_\circ$	Branching ratios														
[keV]	[keV]	Percentage														
E^*		4510	4520	4680	4737	4738	4930	5009	5011	5163	5170	5260	5320	5350	5500	5600
$2J_f^\pi$		5^+				5^+		7^-		X^-		5^+	3^+		7^-	5^+
5801.6			27(2)							25(2)						
5891			34(5)							3(2)						
6186												61(5)				
6192			79(5)													
6246.8				35(5)												
6410		7(4)														
6546																
6749						x										
7461.4	1108.8			1.1								2.9				
7535.8	1185.1										1.4		1.5			
7602.4	1253.5	23			3	10										4
7633.3	1285.2											2.8	6.0			2.1
7699.7	1353.4			8	5											
7714.5	1368.5	22		2.0					1.5	3.5	5.2	4.6	9.2			
7739.6	1394.3											1.0	1.0			0.5
7755.9	1411.0				4.6											
7773.0	1428.6	6.4			1.6								6.2			2.6
7784.8	1440.7															
7797.5	1453.7	5.4	0.8	1.0					1.0				2.1			
7802.0	1458.4	2.9	7.3	3.3						1.8			3.2			
7804.9	1461.3	1.0	8.6	4.8						2.6			1.7			
7820.8	1477.6															
7846.9	1504.4	⟨8⟩			8.2	8.1										
7868.2	1526.3			2(1)								14(1)	0.7			1
7957.9	1618.4												9.6			
7978.7	1639.7			3.8	1.3			2.6	1.8						2.9	1.7
7983.5	1644.6	7.6									3.5	9.1				10
8093.4	1757.4	2.2(5)				1.7(5)		6(2)	6(2)			0.9(4)	1.0(5)		2.4(5)	2.3(5)
8099.3	1763.5	2.7(6)	15(1)	2.8(5)		6(1)				9(1)				1(1)		
8107.9	1772.3						8				3					
8118.1	1782.8	3.0		2.6												
8138.5	1803.7	12				8	10	3	3			6				
8530.9	2206.4					6										9
8584.1	2261.0	2.4										3.2				4.1
8625.3	2303.3	12				x										
8627.3	2305.4			2.3											1.3	12

Additional data on this isotope can be found in [74Ke10, 70Ma31].
with energy E^* larger than 5.5 MeV are given in Supplement.

Branching ratios of γ-transitions. Part 3. $^{39}_{19}\mathbf{K}(\mathrm{p})$

E^*	$E_\circ$	Branching ratios																
[keV]	[keV]	Percentage																
E^*		5600	5640	5710	5720	5800	5830	5890	5940	6040	6090	6250	6330	6410	6430	6480	6530	6550
$2J^\pi_f$		5^+				X^-		7^-										
6460(3)				x														
6475.1					100													
6546(2)																		
7141.7					6.0(15)													
7535.8	1185.1			3.8														
7602.4	1253.5	4																
7633.3	1285.2	2.1					2.6											
7714.5	1368.5			2.1														
7739.6	1394.3	0.5					2.5											
7755.9	1411.0					2.4	2.3											
7773.0	1428.6	2.6							2.2	3.1								
7784.8	1440.7						4											
7797.5	1453.7			2.0		1.7												
7802.0	1458.4						1.4											1.4
7804.9	1461.3						5.4											1.5
7820.8	1477.6						2.4											
7868.2	1526.3	1							2.3									
7978.7	1639.7	1.7	1.5															1.6
7983.5	1644.6	10							7.7			11	11	15			9.1	
8031.1	1693.5												6					
8034.0	1696.5												2					
8038.6	1701.2	2.0																
8079.7	1743.4						6											
8081.6	1745.3																	
8093.4	1757.4	2.3(5)				3.5(6)		8(3)			1.7(4)							3(1)
8099.3	1763.5		5(1)			8(1)												
8107.9	1772.3								10									
8118.1	1782.8			1.1					0.3									
8138.5	1803.7								5									
8530.9	2206.4	9																
8584.1	2261.0	4.1																
8625.3	2303.3								5									
8627.3	2305.4	12	1.1								2.4							

Additional data on this isotope can be found in [74Ke10, 70Ma31].
Data in [84Ha27] contains many weak transitions and hence percentage of the same branchings is lower than in [86Zi02].
Values without errors are from [84Ha27], for some of resonances combined data are given.

Target isotope: $^{40}_{18}$Ar $I^{\pi}_{\circ} = 0^+$ *Abundance:* 99.6003(30) % $S_{\rm p} = 7807.95(26)$ keV

$^{41}_{19}$K(p)

$E_\circ$ [keV]	$2J^\pi$	$2T$	$\Gamma_{\rm p}$ [eV]	$\gamma^2_{\rm p}$ [keV]	Γ [eV]	$S_{\rm p\gamma}$ [eV]	Γ_α [eV]	Rel.int. γ_i	$E^*_{\rm analog}$ [keV]	$E_{\rm cm}$ [keV]	E^* [keV]	Ref.		
799(1)										780	8588(1)	61Ar10	62En05	
819(1)										799	8607(1)	61Ar10	62En05	
856(1)										835	8643(1)	61Ar10	62En05	
898(1)										876	8684(1)	61Ar10	62En05	doublt
904(1)										882	8690(1)	61Ar10	62En05	
911(1)										889	8697(1)	61Ar10	62En05	
920(1)										898	8706(1)	61Ar10	62En05	
942(1)										919	8727(1)	61Ar10	62En05	
950(1)	$\langle 1–5^+ \rangle$					strong				927	8735(1)	61Ar10	62En05	
962(1)										939	8747(1)	61Ar10	62En05	doublt
974.3(5)						0.7(2)				951	8759(1)	89Sm06	61Ar10	doublt
986.2(5)	$\langle 3,5^+ \rangle$					1.6(3)				962	8770(1)	89Sm06	64Ar13	61Ar10
995(1)										971	8779(1)	61Ar10	62En05	
1006.2(10)	$\langle 3,5^+ \rangle$									982	8790(1)	89Sm06		
1015(1)										990	8798(1)	61Ar10	62En05	doublt
1032.0(5)										1007	8815(1)	89Sm06		
1049(1)										1023	8831(1)	61Ar10	62En05	
1052(1)										1026	8834(1)	61Ar10	62En05	
1063.0(5)										1037	8845(1)	89Sm06		
1069.5(5)	$\langle 1–5^+ \rangle$					0.7(2)				1043	8851(1)	89Sm06		
1076.6(2)								0.03		1050	8858(1)	67Bl26	70Ko28	
1082.3(2)								0.12		1056	8864(1)	67Bl26	70Ko28	
1082.9(2)						1.0(2)		0.05		1056	8864(1)	67Bl26	89Sm06	
1086.4(2)	3^-	3+5	3.9*		7.9(19)	2.1(3)		0.43		1060	8868(1)	64Bl19	67Bl26	89Sm06
1096.2(2)								0.04		1069	8877(1)	67Bl26		
1096.4(2)								0.04		1070	8878(1)	67Bl26		
1099.3(2)								0.06		1072	8881(1)	67Bl26		
1101.8(2)	3^-	3+5	12.7*		22(3)	8.0(10)		1.00	$\langle 516 \rangle$	1075	8883(1)	67Bl26	89Sm06	64Bl19
1108.4(2)	3^-	3+5	3.6*		5.1(8)	2.1(3)		0.37		1081	8889(1)	67Bl26	89Sm06	
1113.5(2)								0.04		1086	8894(1)	67Bl26		
1117.3(2)								0.08		1090	8898(1)	67Bl26		
1117.9(2)								0.10		1091	8899(1)	67Bl26		
1118.7(2)								0.16		1091	8899(1)	70Ko28	67Bl26	
1119.8(2)								0.07		1092	8901(1)	67Bl26		
1130.5(2)								0.01		1103	8911(1)	67Bl26		
1137.1(2)								0.02		1109	8917(1)	67Bl26		
1138.7(2)								0.03		1111	8919(1)	67Bl26		
1140.0(2)								0.09		1112	8920(1)	67Bl26		
1141.9(2)								0.08		1114	8922(1)	67Bl26		
1146.9(2)								0.05		1119	8927(1)	67Bl26		
1150.3(2)								0.04		1122	8930(1)	67Bl26		
1152.1(2)								0.09		1124	8932(1)	67Bl26		
1154.0(2)								0.10		1126	8934(1)	67Bl26		
1159.7(2)								0.04		1131	8939(1)	67Bl26		
1162.8(2)	$\langle 3,5^+ \rangle$					0.9(3)		0.10		1134	8942(1)	67Bl26	89Sm06	doublt

(continued) $^{41}_{19}\mathbf{K}$(p)

$E_\circ$ [keV]	$2J^\pi$	$2T$	Γ_p [eV]	γ^2_p [keV]	Γ [eV]	$S_{\mathrm{p}\gamma}$ [eV]	Γ_α [eV]	Γ_n [eV]	Rel.int. γ_i	E^*_analog [keV]	E_cm [keV]	E^* [keV]	Ref.	
1165.6(2)									0.02		1137	8945(1)	67Bl26	
1168.9(2)									0.07		1140	8948(1)	67Bl26	
1172.8(2)									0.03		1144	8952(1)	67Bl26	
1177.6(2)									0.08		1149	8957(1)	67Bl26	
1179.2(2)	$\langle 1^+$–$5^+\rangle$					2.3(5)					1150	8958(1)	67Bl26	89Sm06
1184.7(2)									0.06		1156	8964(1)	67Bl26	
1186.3(2)									0.07		1157	8965(1)	67Bl26	
1194.0(2)									0.07		1165	8973(1)	67Bl26	
1195.7(2)									0.05		1166	8975(1)	67Bl26	
1200(1)											1171	8979(1)	61Ar10	62En05
1207(1)											1178	8986(1)	61Ar10	62En05
1217(1)											1187	8995(1)	61Ar10	62En05
1222(1)											1192	9000(1)	61Ar10	62En05
1229(1)											1199	9007(1)	61Ar10	62En05
1241.1(5)	$\langle 1$–$5^+\rangle$					2.4(5)					1211	9019(1)	89Sm06	
1244.9(5)	$\langle 3^-,5^+\rangle$										1214	9023(1)	89Sm06	
1249(1)											1219	9027(1)	61Ar10	62En05
1258(1)											1227	9035(1)	61Ar10	62En05
1262(1)											1231	9039(1)	61Ar10	62En05
1270.2(5)											1239	9047(1)	89Sm06	
1280.7(5)											1249	9057(1)	89Sm06	
1284.5(5)											1253	9061(1)	89Sm06	
1294.4(5)	$\langle 3^-,5^+\rangle$					2.5(5)					1263	9071(1)	89Sm06	64Ar13
1305.2(5)	3^-					2.1(5)					1273	9081(1)	89Sm06	64Ar13
1323.6(5)	$\langle 3^-,5^+\rangle$					0.8(3)					1291	9099(1)	89Sm06	
1331(1)											1299	9107(1)	61Ar10	62En05
1337.2(5)	5^+					1.0(3)					1305	9113(1)	89Sm06	
1351.6(5)											1319	9127(1)	89Sm06	
1357.2(5)											1324	9132(1)	89Sm06	
1363.7(5)	$\langle 1^+$–$5^+\rangle$					1.5(5)					1330	9138(1)	89Sm06	
1370.3(5)	$\langle 1$–$5^+\rangle$										1337	9145(1)	89Sm06	
1373.7(5)	$\langle 3,5^+\rangle$					1.2(4)					1340	9148(1)	89Sm06	
1384.2(5)	$\langle 1^-$–$5^+\rangle$					1.9(5)					1350	9158(1)	89Sm06	
1389.3(5)	$\langle 3,5^+\rangle$										1355	9163(1)	89Sm06	
1393.8(5)	$\langle 3,5^+\rangle$										1360	9168(1)	89Sm06	
1410.2(5)	5^+					2.1(5)					1376	9184(1)	89Sm06	
1422.1(5)	$\langle 1$–$5^+\rangle$					2.4(8)					1387	9195(1)	89Sm06	
1427.1(5)	$\langle 3,5\rangle^+$					2.6(9)					1392	9200(1)	89Sm06	
1429.8(5)	$\langle 1^+$–$5^+\rangle$					2.2(5)					1395	9203(1)	89Sm06	
1436.1(5)	$\langle 1$–$5^+\rangle$										1401	9209(1)	89Sm06	
1447.0(5)	$\langle 3,5^+\rangle$					2.2(5)					1412	9220(1)	89Sm06	
1454.0(5)	$\langle 1^+$–$5^+\rangle$					1.0(2)					1419	9227(1)	89Sm06	
1459.7(5)	$\langle 3,5^+\rangle$					1.8(4)					1424	9232(1)	89Sm06	
1468(5)											1432	9240(1)	63Co04	
1480(5)											1444	9252(1)	63Co04	

(continued) $^{41}_{19}\mathbf{K}$(p)

$E_\circ$ [keV]	$2J^\pi$	$2T$	Γ_p [eV]	γ^2_p [keV]	Γ [eV]	$S_{\mathrm{p}\gamma}$ [eV]	Γ_α [eV]	Γ_n [eV]	Rel.int. γ_i	E^*_analog [keV]	E_cm [keV]	E^* [keV]	Ref.
1485(5)											1449	9257(1)	63Co04
1491.0(10)	$\langle 1^+$–$5^+\rangle$					1.0(2)					1455	9263(1)	89Sm06
1499.4(5)	$\langle 3,5^+\rangle$					1.3(4)					1463	9271(1)	89Sm06
1509.9(5)	$\langle 3^-,5^+\rangle$					2.4(6)					1473	9281(1)	89Sm06
1513.7(5)	$\langle 3,5\rangle^+$					2.2(6)					1477	9285(1)	89Sm06
1519.9(5)	$\langle 1^+$–$5^+\rangle$					2.9(8)					1483	9291(1)	89Sm06
1528(5)											1491	9299(1)	63Co04
1535(5)											1498	9306(1)	63Co04
1538(5)											1500	9308(1)	63Co04
1550(5)											1512	9320(1)	63Co04
1559.2(5)											1521	9329(1)	89Sm06
1570.7(5)											1532	9340(1)	89Sm06
1583(5)											1544	9352(1)	63Co04
1592.0(5)	5^+					5.2(15)					1553	9361(2)	89Sm06
1603(5)											1564	9372(2)	63Co04
1607(5)											1568	9376(2)	63Co04
1614(5)											1575	9383(2)	63Co04
1618(5)											1579	9386(2)	63Co04
1631(5)											1591	9399(2)	63Co04
1643.2(20)	1^+		20	0.38	20						1603	9411(2)	66Ke09
1648.9(20)	3^-		5	0.25	6		1				1609	9417(2)	66Ke09
1656.1(20)	3^-		35	1.70	36		1				1616	9424(2)	66Ke09
1671.1(20)	3^-		25	1.14	25						1630	9438(2)	66Ke09
1676.9(20)	$\langle 3^-\rangle$		20	0.90	20						1636	9444(2)	66Ke09
1704.0(20)	$\langle 3^-\rangle$		15	0.61	15						1662	9470(2)	66Ke09
1710.2(20)	1^-		100	3.96	100						1668	9476(2)	66Ke09
1715.0(20)	$\langle 3^-\rangle$		35	1.36	36		1				1673	9481(2)	66Ke09
1731.0(20)	$\langle 3^-\rangle$		20	0.74	20						1689	9497(2)	66Ke09
1733.2(20)	3^-		60	2.19	60						1691	9499(2)	66Ke09
1746.1(20)	$\langle 3^-\rangle$		50	1.74	50						1703	9512(2)	66Ke09
1748.5(20)	1^-		70	2.42	75		5				1706	9514(2)	66Ke09
1766.4(20)	3^-		20	0.65	20						1723	9531(2)	66Ke09
1772.8(20)	1^-		30	0.95	34		4				1730	9538(2)	66Ke09
1795.6(20)	3^-		100	2.95	101		1				1752	9560(2)	66Ke09
1807.2(20)	1^-		50	1.42	50						1763	9571(2)	66Ke09
1810.8(20)	3^-		40	1.12	40		1				1767	9575(2)	66Ke09
1814.7(20)	3^-		150	4.15	151		1				1770	9578(2)	66Ke09
1821.9(20)	$\langle 3^-\rangle$		10	0.27	12		2				1777	9585(2)	66Ke09
1829.4(20)	$\langle 3^-\rangle$		40	1.05	40						1785	9593(2)	66Ke09
1833.0(20)	3^-		45	1.17	46		1				1788	9596(2)	66Ke09
1835.3(20)	3^-		70	1.81	70						1790	9599(2)	66Ke09
1841.9(20)	$\langle 3^-\rangle$		70	1.77	70						1797	9605(2)	66Ke09
1849.1(20)	1^-		350	8.66	357		7				1804	9612(2)	66Ke09
1851.4(20)	3^-		30	0.74	30						1806	9614(2)	66Ke09
1859.7(20)	3^-		800	19.2	804		4				1814	9622(2)	66Ke09

(continued) $^{41}_{19}\mathrm{K}(\mathrm{p})$

$E_\circ$ [keV]	$2J^\pi$	$2T$	Γ_p [eV]	γ_p^2 [keV]	Γ [eV]	$S_{\mathrm{p}\gamma}$ [eV]	Γ_α [eV]	Γ_n [eV]	Rel.int. γ_i	E^*_analog [keV]	E_cm [keV]	E^* [keV]	Ref.		
1873.8(20)	3^-	5	1250	28.6	1250					1354	1828	9636(2)	66Ke09	67Br08	63Co04
1876.2(20)	$\langle 3^-\rangle$		140	3.18	140						1830	9638(2)	66Ke09		
1877.0(20)	3^-		450	10.2	450		1				1831	9639(2)	66Ke09		
1884.3(20)	3^-		30	0.67	30		1				1838	9646(2)	66Ke09		
1894.1(20)	3^-		70	1.51	70		1				1848	9656(2)	66Ke09	63Co04	
1897.4(20)	3^-		400	8.52	400		3				1851	9659(2)	66Ke09		
1901.7(20)	1^+		15	0.13	20		5				1855	9663(2)	66Ke09		
1913.8(20)	1^+		125	1.01	130		5				1867	9675(2)	66Ke09		
1914.9(20)	1^+		15	0.12	19		4				1868	9676(2)	66Ke09		
1923.4(20)	1^-		60	1.18	66		6				1877	9684(2)	66Ke09		
1925.2(20)	3^-		50	0.98	52		2				1878	9686(2)	66Ke09		
1931.8(20)	1^-		45	0.87	45						1885	9693(2)	66Ke09		
1958.1(20)	1^-		60	1.07	62		2				1910	9718(2)	66Ke09		
1983.5(20)	1^-		180	2.90	190		11				1935	9743(2)	66Ke09		
1990.6(20)	$\langle 3^-\rangle$		20	0.33	20						1942	9750(2)	66Ke09		
2006.9(20)	1^-		50	0.78	50						1958	9766(2)	66Ke09		
2009.9(20)	1^+		70	0.44	70						1961	9769(2)	66Ke09		
2033.8(20)	$[1^-]$		[50]		[53]		[3]				1984	9792(2)	66Ke09		
2033.8(20)	$\langle 1^+\rangle$		100	2.53	100						1984	9792(2)	66Ke09		
2037.8(20)	3^-		35	0.50	40		5				1988	9796(2)	66Ke09		
2045.0(20)	1^-		20	0.28	23		3				1995	9803(2)	66Ke09		
2062.8(20)	1^-		130	1.74	130						2012	9820(2)	66Ke09		
2082.6(20)	1^-		150	1.91	152		2				2032	9840(2)	66Ke09		
2087.1(20)	3^-		155	1.95	156		1				2036	9844(2)	66Ke09		
2099.0(20)	3^-		70	0.85	71		1				2048	9856(2)	66Ke09		
2108.0(20)	1^-		110	1.31	114		4				2057	9865(2)	66Ke09		
2121.1(20)	3^-		20	0.23	21		1				2069	9877(2)	66Ke09		
2123.5(20)	$\langle 3^-\rangle$		35	0.40	36		1				2072	9880(2)	66Ke09		
2129.0(20)	3^-		60	0.68	69		9				2077	9885(2)	66Ke09		
2145.6(20)	3^-		70	0.74	70						2093	9901(2)	66Ke09		
2151.1(20)	1^-		22	0.24	29		7				2099	9907(2)	66Ke09		
2154.3(20)	1^+		60	0.27	60						2102	9910(2)	66Ke09		
2171.3(20)	1^-		60	0.61	60						2118	9926(2)	66Ke09		
2176.2(20)	1^-		50	0.50	50						2123	9931(2)	66Ke09		
2185.1(20)	$\langle 3^-\rangle$		70	0.69	70						2132	9940(2)	66Ke09		
2210.2(20)	1^+		60	0.24	60						2156	9964(2)	66Ke09		
2216.0(20)	1^+		110	0.44	110						2162	9970(2)	66Ke09		
2230.2(20)	1^-		300	2.67	300						2176	9984(2)	66Ke09		
2246.2(20)	1^+		50	0.19	50						2191	9999(2)	66Ke09		
2264.3(20)	3^-		20	0.16	22		2				2209	10017(2)	66Ke09		
2266.2(20)	1^+		210	0.76	210						2211	10019(2)	66Ke09		
2277.0(20)	1^+		15	0.05	20		5				2221	10029(2)	66Ke09		
2281.5(20)	1^+		40	0.14	42		2				2226	10034(2)	66Ke09		
2290.1(20)	3^+		30	1.18	90		60				2234	10042(2)	66Ke09		
2291.4(20)	3^-		30	0.23	30						2236	10044(2)	66Ke09		

(continued) $^{41}_{19}\mathbf{K}$(p)

$E_\circ$ [keV]	$2J^\pi$	$2T$	Γ_p [eV]	γ^2_p [keV]	Γ [eV]	$S_{\mathrm{p}\gamma}$ [eV]	Γ_α [eV]	Γ_n [eV]	Rel.int. γ_i	E^*_analog [keV]	E_cm [keV]	E^* [keV]	Ref.
2301.2(20)	1^+		15	0.05	15						2245	10053(2)	66Ke09
2304.8(20)	1^-		220	1.66	220		1				2249	10057(2)	66Ke09
2310.7(20)	3^+		50	1.11	80		30				2254	10062(2)	66Ke09
2316.6(20)	1^-		70	0.51	70						2260	10069(2)	66Ke09
2320.4(20)	1^+		65	0.21	65						2264	10072(2)	66Ke09
2325.8(20)	3^+		30	1.07	31		1				2269	10077(2)	66Ke09
2329.9(20)	1^+		50	0.16	51		1				2273	10081(2)	66Ke09
2346.6(20)	1^+		275	0.86	275						2289	10097(2)	66Ke09
2354.2(20)	1^+		200	0.61	200						2297	10105(2)	66Ke09
2357.5(20)	1^-		830	5.61	830						2300	10108(2)	66Ke09
2360.1(20)	1^-		130	0.87	130		1				2302	10111(2)	66Ke09
2373.9(20)	1^-		55	0.36	65		10				2316	10124(2)	66Ke09
2383.0(20)	1^+		140	0.41	150		9				2325	10133(2)	66Ke09
2390.1(20)	1^-		35	0.22	40		5				2332	10140(2)	66Ke09
2403.4(20)	1^+		70	0.20	77		4	3			2345	10153(2)	66Ke09
2404.2(20)	1^-		100	0.62	100		1				2346	10154(2)	66Ke09
2410.7(20)	1^+		150	0.42	150		3				2352	10160(2)	66Ke09
2412.7(20)	1^-		250	1.52	250		1				2354	10162(2)	66Ke09
2416.3(20)	1^-		70	0.42	75		5				2357	10165(2)	66Ke09
2434.9(20)	1^+		600	1.61	600						2376	10184(2)	66Ke09
2444.9(20)	3^-		750	4.27	750		6	1			2385	10193(2)	66Ke09
2450.7(20)	1^+	5	1000	2.61	1000		13			1869	2391	10199(2)	66Ke09
2453.5(20)	1^+		750	1.95	750						2394	10202(2)	66Ke09
2455.8(20)	3^-		140	0.78	150		9	2			2396	10204(2)	66Ke09
2460.5(20)	1^-		40	0.22	80		5	35			2401	10208(2)	66Ke09
2464.2(20)	1^+		340	0.87	360		18				2404	10212(2)	66Ke09
2472.7(20)	1^-		410	2.22	410			1			2412	10220(2)	66Ke09
2480.4(20)	$\langle 1^+ \rangle$		175	0.42	183		6	2			2420	10228(2)	66Ke09
2481.8(20)	1^-		90	0.48	100		11				2421	10229(2)	66Ke09
2486.3(20)	3^-		225	1.19	230		6				2426	10234(2)	66Ke09
2491.8(20)	1^-		40	0.21	80		25	15			2431	10239(2)	66Ke09
2495.5(20)	3^-		25	0.13	45		15	5			2435	10243(2)	66Ke09
2500.0(20)	1^-		1400	7.20	1400		9				2439	10247(2)	66Ke09
2502.1(20)	3^-		175	0.90	190		7	6			2441	10249(2)	66Ke09
2511.1(20)	1^+		45	0.11	200		125	30			2450	10258(2)	66Ke09
2521.0(20)	1^+		50	0.12	70		15	5			2460	10268(2)	66Ke09
2531.4(20)	3^-		25	0.12	35		4	6			2470	10278(2)	66Ke09
2544.6(20)	$\langle 1^- \rangle$		40	0.19	200		100	60			2483	10291(2)	66Ke09
2545.9(20)	$\langle 1^- \rangle$		35	0.17	60		12	13			2484	10292(2)	66Ke09
2548.9(20)	1^-		90	0.42	100		4	6			2487	10295(2)	66Ke09
2557.0(20)	1^-		180	0.84	250		53	15			2495	10303(2)	66Ke09
2559.0(20)	1^+		25	0.06	30		5				2497	10305(2)	66Ke09
2559.9(20)	1^-		55	0.25	170		15	100			2498	10305(2)	66Ke09
2568.6(20)	1^+		40	0.09	45		5				2506	10314(2)	66Ke09
2581.6(20)	3^-		250	1.11	270		13	4			2519	10327(2)	66Ke09

(continued) $^{41}_{19}\mathbf{K}(\mathrm{p})$

$E_\circ$ [keV]	$2J^\pi$	$2T$	Γ_p [eV]	γ^2_p [keV]	Γ [eV]	$S_{\mathrm{p}\gamma}$ [eV]	Γ_α [eV]	Γ_n [eV]	Rel.int. γ_i	E^*_analog [keV]	E_cm [keV]	E^* [keV]	Ref.	
2587.8(20)	1^-		30	0.13	50		10	10			2525	10333(2)	66Ke09	
2593.8(20)	1^+		40	0.04	43		3				2531	10339(2)	66Ke09	
2595.6(20)	1^-		650	2.82	650		2				2532	10340(2)	66Ke09	
2597.5(20)	1^+		175	0.37	175		1				2534	10342(2)	66Ke09	
2599.8(20)	1^-		90	0.39	137		47				2536	10344(2)	66Ke09	
2602.0(20)	3^+		75	1.43	125		35	15			2539	10347(2)	66Ke09	
3390(20)	3^-		7.5		34.5			12		2740	3307	11115(20)	68Sc11	
3490(20)	1^-		7.0		18.0			<2			3405	11213(20)	68Sc11	
3600(20)	3^-		3.6		12.0			3		2955	3512	11320(20)	68Sc11	
3650(20)	1^-		7.7		18.0			8		3017	3561	11369(20)	68Sc11	
3710(20)	1^+		4.5		20.0					3120	3620	11427(20)	68Sc11	
3740(20)	1^+		3.0		9.0			3		3120	3649	11457(20)	68Sc11	
3930(20)	3^-		5.5		13.5			7			3834	11642(20)	68Sc11	
3960(20)	3^-		5.5		15.5					3335	3863	11671(20)	68Sc11	
4030(20)	1^+		4.5		17.0			8			3932	11740(20)	68Sc11	
4070(20)	3^-		3.5		21.0			8		3438	3971	11779(20)	68Sc11	
4150(20)											4049	11857(20)	72Bu06	
4190(20)											4088	11896(20)	72Bu06	
4320(20)											4215	12023(20)	72Bu06	multpl
4390(20)											4283	12091(20)	72Bu06	
4440(20)										3710	4332	12140(20)	72Bu06	
4490(20)										3850	4380	12188(20)	72Bu06	
4550(20)											4439	12247(20)	72Bu06	
4640(20)											4527	12335(20)	72Bu06	
4680(20)										3900	4566	12374(20)	72Bu06	
4730(20)										4110	4615	12423(20)	72Bu06	
4840(20)											4722	12530(20)	72Bu06	
5000(20)											4878	12686(20)	72Bu06	
5140(20)											5015	12823(20)	72Bu06	
5210(20)	$\langle 5^+ \rangle$									4577	5083	12891(20)	72Bu06	
5330(20)										4820	5200	13008(20)	72Bu06	

Additional data on this isotope can be found in [86Sm13, 86Bi03, 80Ma11, 80Ma23, 72Bu06, 71Ko32, 68Sc11, 68Yo05, 67Bl26, 67Ky0A, 66Ke01, 66Pa18, 66Sk02, 65Du03, 65Wi0A, 64Ar13, 61Ba29, 60Va07, 59Va07, 58Fr51].

* For these resonances the values Γ_α are: 0.032(12) eV, 0.064(24) eV, 0.019(6) eV.

Relative γ-intensities are normalized to 1.0 for the resonance at $E_\circ$=1101 keV [67Bl26].

The values of Γ_p/Γ given in [67Bl26] were discussed in [90En08].

Data from [86Sm13] were listed in [90En08].

$E_\circ$ from [63Co04] are shifted upwards on 5 keV to fit the energy scale to that of [86Sm13].

About 280 resonances corresponding to the excitation energy E^*=8860–9420 keV were observed in [67Bl0B].

Additional 69 resonances at $E_\circ$=2324–2464 keV with an average spacing of about 1.7 keV were observed in (p,n) reaction [63Bi0A].

Branching ratios of γ-transitions [89Sm06, 90En08]. Part 1. $^{41}_{19}\mathrm{K}(\mathrm{p})$

E^*	$2J^\pi$	$2T$	Branching ratios											Ref.
[keV]			Percentage											
E^*			0	980	1294	1559	1582	1593	1677	1698	2144	2167	2317	
$2J_f^\pi$			3^+	1^+	7^-	3^+	3^-	1^+	7^+	5^+	5^+	3^-	5^-	
980.476	1^+		100											90En08
1294.61	7^-		100											90En08
1559.03	3^+		82.4(6)	17.6(6)										90En08
1582.00	3^-		83.5(7)	15.7(7)	0.8(3)									90En08
1593.11	1^+		50.5(11)	39.5(11)										90En08
1677.24	7^+		99.3(1)		0.7(1)									90En08
1698.01	5^+		100	<2										90En08
2144.82	5^+		69(3)	4.4(10)		22(3)	0.22(5)	0.14(4)		3.7(8)				90En08
2166.70	3^-		38(2)	47(3)		2.0(6)	9(3)	4(1)						90En08
2316.70	5^-		3.2(9)		93(2)		4(1)		0.26(8)					90En08
2440.18	$3,5^+$		63	17		6		x		14				90En08
3447.83			100											
2494.91	9^+				32.5(11)				48(1)	19.1(10)				90En08
2507.93	7^+		44(4)		9(2)	7(2)			37(5)		2.6(5)		0.11(3)	90En08
2527.66	11^+								100					90En08
2593.97	3^-		12(2)				88(2)			<1				90En08
2675.2	1^+		36			64								90En08
2710.48	$3^+,5^+$		68(5)								32(5)			90En08
2712.57	7^-				66(6)		13(3)			7(2)		1.5(4)	13(3)	90En08
2756.73	5^+		58(7)			11(3)			4(1)	12(3)	15(8)			90En08
2761.73	11^-				99.7(1)									90En08
2774.25	13^+													
3048.22	3^-		88(2)	x				x			12(2)			90En08
3141.84	7^-												3.0(8)	90En08
3142.43	5^-				71(5)				24(5)		0.9(2)			90En08
3162.2			100											90En08
3179.8	$3^+,5^+$		76(5)			24(5)								90En08
3213.61	5^-		5.5(8)		94.5(8)									90En08
3229.8	$1,3^-$		22(8)	33(8)		45(12)								90En08
3235.57					69(5)								31(5)	90En08
3240.65					50(4)					3.4(5)	12(2)			90En08
3277.9			42	58										90En08
3431.84	9^-				54(4)								10(2)	90En08
3449.76	$5^-,7^-$				100									90En08
3488.5	5^+		76(2)	5.2(12)	3.0(10)			3.2(10)		9.6(15)				90En08
3489.30	$5^-,7^-$				59(4)					16(2)				90En08
3521.38	X^+		85(4)											90En08
3534.45	X^+													
3560.61			98.7(5)											90En08
3572.38									86(5)				14(5)	90En08
3578.3	X^+					x			x		x			90En08
3579.2			100											90En08

(continued) $^{41}_{19}\mathbf{K}$(p)

E^*	$E_\circ$	$2J^\pi$	$2T$	Branching ratios									Ref.
[keV]	[keV]			Percentage									
E^*				0	980	1294	1559	1582	1593	1677	1698	2144	2167	2317	
$2J_f^\pi$				3^+	1^+	7^-	3^+	3^-	1^+	7^+	5^+	5^+	3^-	5^-	
3612.77				55(6)				29(5)	16(4)						90En08
3626.1		1^-,3^-						50(10)	50(10)*						90En08
3651.46						18(2)				82(2)					90En08
3740.1		1^-,3^-		50(10)				50(10)							90En08
3761.54				83(2)			13(1)								90En08
3774.66		5^-		31(2)	13(3)	33(3)		14(2)							90En08
3819															
3826.90				51(4)	7(2)		42(4)								90En08
3861.3		X^+													
3870.52		5^-,7^-				47(4)						53(4)			90En08
3897.1		11,13													
3911.7		1^-,3^-		20(6)	80(6)										90En08
3990.40		X^-													
3996.49		5^+		37(2)	1.9(4)	7.2(7)	14(1)			20(2)	6.7(7)				90En08
4026.94		5^+				60(7)	**							40(7)	90En08
4146.15		5^-,7^-				95(1)									90En08
4164.57										73(5)					90En08
4220.62		$5,7^+$		20(1)		46(3)				17(2)	9(1)				90En08
4228.99		5^-		5.4(7)		47(3)							10(1)		90En08
4244.22		3^-				73(2)							13(1)		90En08
4260.36		3^-,5		31(2)							60(3)				90En08
4274.46		15^-													
4274.96		7^-,9^+				83(2)					3.5(5)				90En08
4303.01		5^+,7^+		13(2)							58(4)				90En08
4340.9				100											90En08
4345.66		$5,7^-$				10(1)		16(2)		32(3)		7.0(8)			90En08
4459.72		3^-		34(2)	11(1)		46(3)								90En08
4478		1^-,3^-													
4525.37												92(2)			90En08
4568.75		9^+,11													
4609.48		X^+													
4730.70		3^-				77(2)									90En08
4735.86		5^+,7^+		4.9(6)							20(2)			31(3)	90En08
4745.49		5^+		23(1)				33(2)		20(2)				12(1)	90En08
4749.47				37(2)		57(2)									90En08
4823.33		7^+,9^+				9(1)				26(2)	3(1)				90En08
4848.5		3^-		62(10)								38(10)			90En08
4862.43		5		38(2)						36(3)					90En08
4927.83		5^+				3.7(6)			9(1)	16(7)	23(5)			17(2)	90En08
4948.94		X^-				40(3)		59(3)							90En08
4962.3				100											90En08
4995		5^-,7^-													

(continued) $^{41}_{19}\mathbf{K}(\mathrm{p})$

E^* [keV]	$E_\circ$ [keV]	$2J^\pi$	$2T$	Branching ratios Percentage										Ref.
E^*				0	980	1294	1559	1582	1593	1677	1698	2144	2167	2317	
$2J^\pi_f$				3^+	1^+	7^-	3^+	3^-	1^+	7^+	5^+	5^+	3^-	5^-	
5021.23				71(5)	29(5)										90En08
5096.20															
5101		1^-,3^-		45(15)										55(15)	90En08
5185.27		$5,7^-$													
5298.86		X^-						11(2)				18(3)			90En08
5401.7		1^-,3^-		84(5)					16(5)						90En08
5497														40(2)	87Kr01
5548				44(2)						29(2)					87Kr01
5557					56(3)										87Kr01
5575				28(3)											87Kr01
5605				54(3)											87Kr01
5611				32(4)						39(5)					87Kr01
5656									8(1)				48(3)		87Kr01
5659				66(3)			21(2)								87Kr01
5801					19(2)										87Kr01
5827						39(3)									87Kr01
5887					23(6)										87Kr01
5912															87Kr01
5952															87Kr01
5969															87Kr01
6041														15(2)	87Kr01
6071						20(2)					20(3)				87Kr01
6079								15(2)			14(3)				87Kr01
6186										8(1)					87Kr01
6212														7(1)	87Kr01
6230															87Kr01
6256								45(3)							87Kr01
6290				33(2)	6(1)			7(2)	34(2)						87Kr01
6394											34(2)		11(2)		87Kr01
6435														37(2)	87Kr01
6450				12(2)											87Kr01
6497						100									87Kr01
6528															87Kr01
6770						20(3)									87Kr01
6783														14(3)	87Kr01
6791										28(3)				6(1)	87Kr01
6835						26(2)				7(1)			7.9(7)		87Kr01
6996										5(1)					87Kr01
7021						60(3)									87Kr01
7035							11(1)			40(3)		9.1(7)			87Kr01
7361								12(4)							87Kr01
7593															87Kr01

(continued) $^{41}_{19}\mathbf{K}(\mathrm{p})$

E^* [keV]	$E_\circ$ [keV]	$2J^\pi$	$2T$	Branching ratios Percentage											Ref.
E^*				0	980	1294	1559	1582	1593	1677	1698	2144	2167	2317	
$2J^\pi_f$				3^+	1^+	7^-	3^+	3^-	1^+	7^+	5^+	5^+	3^-	5^-	
7655												20(1)			87Kr01
7939						34(2)									87Kr01
8190															87Kr01
8200										2.2(4)					87Kr01
8758.5	974.3	$\langle 1–5^+\rangle$		3.8	3.4		19	19	6.4				8.0		89Sm06
8770.1	986.2	$\langle 3,5^+\rangle$		12	18			6.1	15		1.6		4.4	5.4	89Sm06
8789.6	1006.2	$\langle 3,5^+\rangle$		6.6	5.5		27				9.7		6.6		89Sm06
8851.4	1069.5	$\langle 1–5^+\rangle$		45	4.5			4.6					9.2		89Sm06
8864.4	1082.9	$\langle 3^-,5^+\rangle$			12	2.1	45	7.0	12				6.0		89Sm06
8867.9	1086.4	3^-	3+5	36	3.3			21					1.2	2.8	89Sm06
8882.9	1101.8	3^-	3+5	0.8	5.6			29			0.7		1.7		89Sm06
8889.3	1108.4	3^-	3+5	40	7.8			14				1.7			89Sm06
8942.4	1162.8	$\langle 3,5^+\rangle$		6.4	12		14					13	7.3	22	89Sm06
8958.4	1179.2	$\langle 1^+–5^+\rangle$		4.5	16		7.9	20	14		4.7	3.3	2.7		89Sm06
9018.8	1241.1	$\langle 1–5^+\rangle$		44	38		1.1	1.8	1.3				2.5		89Sm06
9022.5	1244.9	$\langle 3^-,5^+\rangle$			14	40		5.3				14		4.5	89Sm06
9070.8	1294.4	$\langle 3^-,5^+\rangle$		12	3.2	26	6.6	6.6	21				7.5		89Sm06
9081.3	1305.2	3^-		23	16	1.5	26	9.0	4.4						89Sm06
9099.3	1323.6	$\langle 3^-,5^+\rangle$		11	4.1	4.1	23		16		14	6.8	5.8	11	89Sm06
9112.5	1337.2	5^+		27	11	2.4	22	8.8		1.8		4.6	3.9	2.5	89Sm06
9138.4	1363.7	$\langle 1^+–5^+\rangle$		12	13		14	4.6	15		4.8	10	4.3		89Sm06
9144.8	1370.3	$\langle 1–5^+\rangle$		37	44		19								89Sm06
9148.1	1373.7	$\langle 3,5^+\rangle$		13	11						5.0	30		5.9	89Sm06
9158.4	1384.2	$\langle 1^-–5^+\rangle$		66	5.7								19	7.6	89Sm06
9163.4	1389.3	$\langle 3,5^+\rangle$		7.8	2.3		4.6	3.1			3.6	1.7	2.4	2.2	89Sm06
9167.8	1393.8	$\langle 3,5^+\rangle$		6.1			7.7	10	5.2		10	8.5	2.9	5.0	89Sm06
9183.8	1410.2	5^+		41	4.8	1.4	2.5		16	1.5	1.5		3.0	4.8	89Sm06
9195.4	1422.1	$\langle 1–5^+\rangle$		19	42		8.2		3.6				8.4		89Sm06
9200.2	1427.1	$\langle 3,5\rangle^+$		8.1			26		17	4.5	1.7	2.6	3.7	2.6	89Sm06
9202.9	1429.8	$\langle 1^+–5^+\rangle$		3.8	41				30		6.2	1.4	0.9		89Sm06
9209.0	1436.1	$\langle 1–5^+\rangle$		20			31	13	11				25		89Sm06
9219.7	1447.0	$\langle 3,5^+\rangle$		23	17			28			8.4	9.4		1.8	89Sm06
9226.5	1454.0	$\langle 1^+–5^+\rangle$		13	8.2		11	11	3.1		2.7		8.6		89Sm06
9232.0	1459.7	$\langle 3,5^+\rangle$		21	5.4		5.4	20	1.8		1.1	3.4		2.3	89Sm06
9262.6	1491.0	$\langle 1^+–5^+\rangle$		20	15		6.7	12	18		4.7				89Sm06
9270.8	1499.4	$\langle 3,5^+\rangle$		16	8.0		1.3	2.9	3.7		9.1		21	14	89Sm06
9281.0	1509.9	$\langle 3^-,5^+\rangle$		7.0	4.6	3.6	20				7.6		11	11	89Sm06
9284.7	1513.7	$\langle 3,5\rangle^+$		44	25			7.6		2.3	1.2	4.1		2.4	89Sm06
9290.8	1519.9	$\langle 1^+–5^+\rangle$		28	3.3		12		25			2.5	2.6		89Sm06
9361.1	1592.0	5^+		28	19	13		11		6.0			3.4		89Sm06

(continued) $^{41}_{19}\mathbf{K}$(p)

E^*	$E_\circ$	$2J^\pi$	$2T$	Branching ratios											Ref.
[keV]	[keV]			Percentage											
E^*				0	980	1294	1559	1582	1593	1677	1698	2144	2167	2317	
$2J^\pi_f$				3^+	1^+	7^-	3^+	3^-	1^+	7^+	5^+	5^+	3^-	5^-	
9741						9(2)									87Kr01
10095						1.7(1)		0.23(2)		0.13(1)	0.21(1)	3.2(2)		10.3(6)	87Kr01

* Transition to the unknown state.
** 100% branching for transition from E^*=4027 keV to the 1560 keV state was reported in [84Kr05].
2T=3+5 for resonances at 1087, 1102 and 1109 keV are given in [90En08].

Branching ratios of γ-transitions [89Sm06, 90En08]. Part 2. $^{41}_{19}\mathbf{K}$(p)

$E_\circ$	Branching ratios															
[keV]	Percentage															
E^*	2440	2448	2495	2508	2528	2594	2675	2713	2757	2762	2774	3048	3142	3143	3180	3214
$2J^\pi_f$	$3,5^+$			7^+	11^+	3^-	1^+	7^-	5^+	11^-	13^+	3^-	7^-			
2761.73			0.3(1)													
2774.25					100											
3141.84			32(6)	57(7)					8(2)	0.4(2)						
3142.43					1.9(5)					1.4(2)						
3240.65			9(2)	26(5)												
3431.84								15(3)		21(4)						
3521.38			15(4)													
3534.45			53(7)	7(2)	38(7)											
3560.61													1.3(5)			
3761.54									4.5(9)							
3774.66				7(2)												0.6(2)
3897.1											100					
3990.40										65(6)						
3996.49				5(1)									2(1)	4(1)		
4164.57		1.6(4)														
4228.99				25(2)												
4244.22						7.1(9)								7(1)		
4260.36						8(1)										
4274.46										80.5(11)	19.5(11)					
4274.96										13(2)						
4303.01			8(3)													
4345.66														5(1)		
4568.75					63(3)						33(3)					
4609.48			61(3)						30(3)							

(continued) $^{41}_{19}\mathbf{K}(\mathrm{p})$

$E_\circ$ [keV]	$E_\circ$ [keV]	Branching ratios Percentage															
E^*		2440	2448	2495	2508	2528	2594	2675	2713	2757	2762	2774	3048	3142	3143	3180	3214
$2J_f^\pi$		$3,5^+$			7^+	11^+	3^-	1^+	7^-	5^+	11^-	13^+	3^-	7^-			
4730.70														23(2)			
4735.86				44(3)													
4745.49				11(1)													
4823.33			4.9(6)		30(3)	12(1)				4.1(6)							
4862.43							26(2)										
4927.83									8(1)	24(3)							
5096.20			20(3)		33(5)				32(4)								
5185.27					62(3)												
5497				8(1)	2.1(5)	13(1)			16(2)								
5548															9(1)		
5557							24(3)										
5575									67(3)								
5656														15(2)			
5801					31(3)												
5887										39(4)							
5912				16(2)	28(2)						14(1)	16(1)					
5952											77(3)				23(3)		
5969											57(6)	34(6)					
6041										25(5)							17(2)
6186															37(2)		
6212				9(1)		84(2)											
6230															19(5)		
6256					16(3)												
6435													43(2)				
6528									54(3)								
6770							15(2)							36(5)			
6835														9(1)			
6996										27(2)							
7035									11(1)								
7361									13(1)								
7593									4.4(9)								
7939									13(2)								
8200													21(2)				
8758.5	974.3	9.6					6.1		6.4								
8770.1	986.2	3.2					2.2	10					1.2				
8789.6	1006.2	6.3							17								15
8851.4	1069.5						5.0										
8864.4	1082.9								2.1				2.5				
8882.9	1101.8						23	1.8	1.3	1.4						0.9	1.7
8889.3	1108.4						15		2.9	2.5						5.2	
8942.4	1162.8						4.8			13							
8958.4	1179.2							15									

(continued) $^{41}_{19}\mathrm{K}(\mathrm{p})$

$E_\circ$	$E_\circ$	Branching ratios																
[keV]	[keV]	Percentage																
E^*		2440	2448	2495	2508	2528	2594	2675	2713	2757	2762	2774	3048	3142	3143	3180	3214	
$2J_\mathrm{f}^\pi$		3,5$^+$			7$^+$	11$^+$	3$^-$	1$^+$	7$^-$	5$^+$	11$^-$	13$^+$	3$^-$	7$^-$				
9018.8	1241.1	2.2						5.2	1.2									
9022.5	1244.9									4.8			7.6					
9070.8	1294.4								8.0				0.9			5.6		
9081.3	1305.2						5.5			2.1			2.1					
9112.5	1337.2	2.9								2.3			2.8			4.4		
9138.4	1363.7	10							5.1									
9148.1	1373.7						7.1		18	10								
9163.4	1389.3	1.0									34					8.8		
9167.8	1393.8	12							14	11								
9183.8	1410.2	3.7						9.6										
9195.4	1422.1												3.05					
9200.2	1427.1	13						4.6	6.4									
9202.9	1429.8							5.4	5.0	4.2								
9219.7	1447.0										1.0		1.3			1.9		
9226.5	1454.0	7.4					6.3						1.6					
9232.0	1459.7	12						3.1	4.6				0.9			3.4		
9262.6	1491.0						4.7			6.0								
9270.8	1499.4						2.9	4.7	13	3.4								
9281.0	1509.9	4.1						9.8	5.5	6.0								
9284.7	1513.7							4.1	5.6		3.7							
9290.8	1519.9	3.6					3.6	2.5	4.7	1.0			4.8					
9361.1	1592.0						2.1	4.6	8.1				2.2				2.6	
9741									43(6)									
10095				0.28(2)														

Branching ratios of γ-transitions [89Sm06, 90En08]. Part 3. $^{41}_{19}\mathrm{K}(\mathrm{p})$

$E_\circ$	$E_\circ$	Branching ratios															
[keV]	[keV]	Percentage															
E^*		3230	3236	3241	3280	3432	3450	3489	3521	3534	3561	3580	3613	3630	3651	3740	3762
$2J_\mathrm{f}^\pi$																	
3534.45				2.0(5)													
3774.66			0.9(2)														
3990.40											35(6)						
3996.49															2.1(3)		
4164.57						24(5)											0.9(2)
4220.62											1.9(5)		7(2)				

(continued) $^{41}_{19}\mathrm{K}(\mathrm{p})$

$E_\circ$ [keV]	$E_\circ$ [keV]	Branching ratios Percentage															
E^* $2J_\mathrm{f}^\pi$		3230	3236	3241	3280	3432	3450	3489	3521	3534	3561	3580	3613	3630	3651	3740	3762
4228.99			1.8(4)	3.2(7)													
4244.22															0.7(2)		
4274.96										1.0(3)							
4303.01										10(2)							
4345.66			21(4)												6(1)		
4459.72													3.9(9)				
4609.48				9(2)													
5185.27						13(2)					17(2)						
5298.86						8(1)		7(3)									
5605															21(2)		
5656				29(3)													
5827			14(3)						15(2)								
5912				15(2)													
6071													16(2)				
6079				27(3)													
6186				19(2)													
6394											17(2)						
6528															10(1)		
6783				22(7)													
7035													12(2)				
7361													12(2)				
8190								24(2)	16(2)								11(2)
8200											6.2(5)						
8758.5	974.3	8.7														9.6	
8770.1	986.2	4.2											2.8	3.3			
8789.6	1006.2													6.3			
8851.4	1069.5	10											14				
8864.4	1082.9				1.3							1.3					
8882.9	1101.8				1.8		13							2.0			
8889.3	1108.4						5.0										
8958.4	1179.2												7.4				
9018.8	1241.1												1.1			3.74	
9022.5	1244.9	4.5														5.3	
9081.3	1305.2	2.8											3.2				
9138.4	1363.7												7.2				
9167.8	1393.8				2.5											5.1	
9195.4	1422.1													3.0			
9200.2	1427.1				3.3								2.3	2.9			
9202.9	1429.8													2.1			
9219.7	1447.0													3.0			
9226.5	1454.0	2.1			2.2								6.9	5.7			
9232.0	1459.7	3.4			1.8		1.6							2.7		4.7	

(continued) $^{41}_{19}\mathrm{K}(\mathrm{p})$

$E_\circ$ [keV]	$E_\circ$ [keV]	Branching ratios Percentage															
E^* $2J_\mathrm{f}^\pi$		3230	3236	3241	3280	3432	3450	3489	3521	3534	3561	3580	3613	3630	3651	3740	3762
9290.8	1519.9											3.4					
9741						48(7)											

100% branching for transition from E^*=4027 keV to the 1560 keV state was reported in [84Kr05].

Branching ratios of γ-transitions [89Sm06, 90En08]. Part 4. $^{41}_{19}\mathrm{K}(\mathrm{p})$

$E_\circ$ [keV]	$E_\circ$ [keV]	Branching ratios Percentage															
E^* $2J_\mathrm{f}^\pi$		3775	3827	3860	3871	3910	3990	3996	4027	4146	4165	4221	4229	4244	4260	4275	4303
4146.15		5(1)															
4220.62									0.2(1)								
4228.99		5	0.9(2)		7(2)												
4459.72		5(1)															
4525.37												4(1)	4(1)				
4749.47		6(1)															
5096.20		15(3)															
5497								16(3)									
5548							17(2)										
5557									16(2)								
5801		10(3)															
5827												20(2)					
5887			18(3)														
5912											6.2(7)						
5969											9(2)						
6079												43(3)					
6186									32(3)								
6230										67(5)							
6256														37(3)			
6290														20(2)			
6394		26(2)	12(1)														
6528								36(3)									
6996									36(3)								32(3)
7021								25(2)									
7655														19(1)		20(1)	
7939										22(2)							

(continued) $^{41}_{19}\mathrm{K}(\mathrm{p})$

$E_\circ$ [keV]	$E_\circ$ [keV]	Branching ratios Percentage															
E^* $2J_\mathrm{f}^\pi$		3775	3827	3860	3871	3910	3990	3996	4027	4146	4165	4221	4229	4244	4260	4275	4303
8190														23(3)			
8200			7.7(9)												18(2)		
8770.1	986.2			2.8													
8864.4	1082.9			6.6													
8882.9	1101.8	2.3		5.7													
8889.3	1108.4	1.5															
9163.4	1389.3	5.4		17													
9183.8	1410.2			3.6													
9226.5	1454.0			1.6													
9232.0	1459.7			1.4													
9262.6	1491.0			7.2													
9281.0	1509.9			9.8													
9290.8	1519.9			3.0													

Branching ratios of γ-transitions [89Sm06, 90En08]. Part 5. $^{41}_{19}\mathrm{K}(\mathrm{p})$

$E_\circ$ [keV]	$E_\circ$ [keV]	Branching ratios Percentage														
E^* $2J_\mathrm{f}^\pi$		4340	4346	4460	4525	4609	4731	4736	4745	4749	4823	4862	4928	4949	5021	5096
4948.94						1.4(4)										
5185.27					3.6(9)		3.3(7)				1.6(3)					
5298.86					13(3)		11(2)									
5497						4(1)										
5548													0.9(2)			
5575												5(1)				
5605												21(4)		2.2(6)		
5611							29(5)									
5801								33(5)		7(2)						
5827								12(2)								
5887							20(5)									
6071											44(5)					
6230				15(2)												
6435			10(1)													
6450						19(2)										
7035											17(2)					
7361									24(2)				36(3)			

(continued) $^{41}_{19}\mathrm{K}(\mathrm{p})$

$E_\circ$ [keV]	$E_\circ$ [keV]	Branching ratios Percentage														
E^*		4340	4346	4460	4525	4609	4731	4736	4745	4749	4823	4862	4928	4949	5021	5096
$2J_\mathrm{f}^\pi$																
7655								17(2)					11(1)			
8200				18(2)												

Branching ratios of γ-transitions [89Sm06, 90En08]. Part 6. $^{41}_{19}\mathrm{K}(\mathrm{p})$

$E_\circ$ [keV]	$E_\circ$ [keV]	Branching ratios Percentage															
E^*		5185	5299	5400	5497	5540	5611	5656	5659	5827	5887	5952	6071	6079	6212	6497	6528
$2J_\mathrm{f}^\pi$																	
5557			4.3(9)														
5605		1.5(5)															
6079									1.6(5)								
6186			4(1)														
6256							2.4(6)										
6435										10(2)							
6450										9(2)							
6770			30(10)														
6783					38(7)												
6791		35(3)									11(2)			6(1)			
6835		13(1)														0.4(2)	
7361										3.7(7)							
7655			6(1)	7(1)													
7939												9(1)	8(1)		14(2)		
8190								26(3)									